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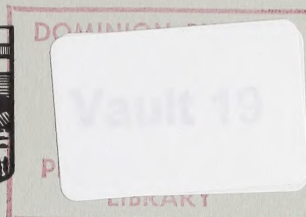
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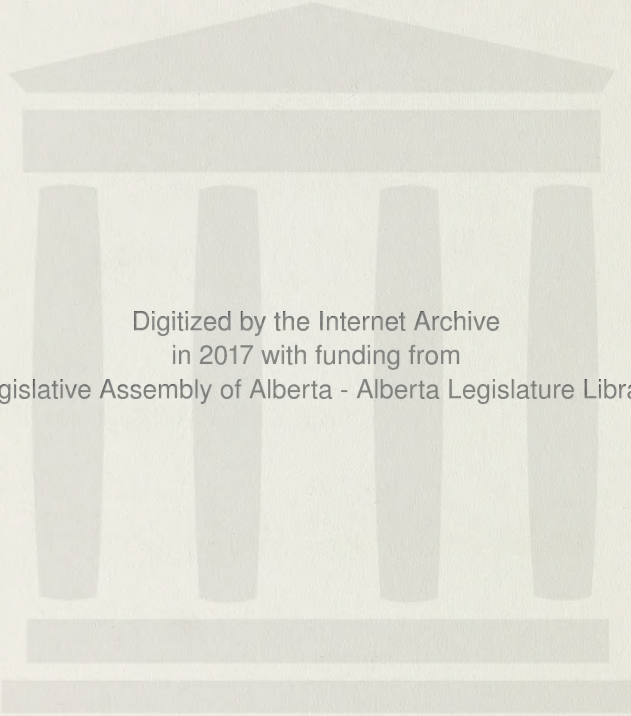
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ANNUAL REPORT
OF
THE MINES DIVISION
OF THE
Department of Mines and Minerals
OF THE
PROVINCE OF ALBERTA

1966

Edmonton:
Printed by L. S. Wall, Queen's Printer

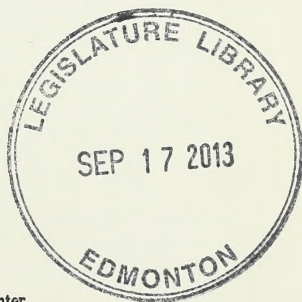


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1966



Edmonton:
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Edmonton, Alberta,

February 6th, 1967.

TO THE HONOURABLE A. RUSSELL PATRICK,

Minister of Mines and Minerals

Sir:

I have the honour to submit the Annual Report of the Mines Division of the Department of Mines and Minerals for the year ending December 31st, 1966.

Respectfully submitted,

J. D. B. BROWN,

Director of Mines.

ANNUAL REPORT OF THE MINES DIVISION FOR THE YEAR ENDING DECEMBER 31st, 1966

In this report tonnages are quoted in tons of 2,000 pounds.

The output of coal from the mines in the province was 3,467,254 tons with a valuation of \$12,067,044. This shows an increase of 53,326 tons and a decrease of \$104,957, compared with the previous year.

There were 25,838 tons of coal used to make 27,904 tons of briquettes valued at \$254,858. This shows a decrease of 6,754 tons of briquettes made and a decrease in valuation of \$67,709, compared with the previous year. There were 11,387 tons of char, valued at \$127,946, made from coal and briquettes.

In addition to the above tonnage, there were 535 tons of coal reported as mined by the Blackfoot Indians, at Gleichen, for their own use.

The disposition of coal for 1966 and comparison with the previous year follows:

	1966 (Tons)	1965 (Tons)
Sold for consumption in Alberta	2,034,814	1,928,684
Sold for consumption in British Columbia	197,521	276,608
Sold for consumption in Saskatchewan	376,889	388,796
Sold for consumption in Manitoba	115,771	130,861
Sold for consumption in Ontario	24,893	31,733
Sold for consumption elsewhere	8	65
Sold to the United States	12,206	14,123
Sold to Japan	709,977	614,801
Sold to railway companies	6,631	10,798
Put to stock	113,354	89,960
Put to waste	16,316	9,609

The above tonnages include lifted from stock and waste heaps which are not included in the total output.

The Alberta consumption includes coal used under colliery boilers and includes coal used making briquettes and char.

There were 37 subsurface and strip mines which produced coal during the year, employing 1,146 persons who worked 275,195 shifts. This shows a decrease of 7 mines, a decrease of 35 persons, and a decrease of 13,676 shifts, compared with the previous year. There were 23 strip mines employing 304 persons who worked 76,797 shifts and produced 2,428,852 tons. This shows a decrease of 3 strip mines, a decrease of 34 persons, a decrease of 11,778 shifts and a decrease of 7,360 tons from stripping operations, compared with the previous year.

The number of mines using electrical power during the year was 31. The following table shows the comparison of purchased electrical power in K.W. hrs. by mines for the past ten years.

1957	29,110,288	1962	20,436,598
1958	20,574,436	1963	22,062,185
1959	25,159,068	1964	21,930,976
1960	26,231,225	1965	20,001,530
1961	21,694,596	1966	25,690,710

The total horsepower of electrical motors in use was 29,005 h.p., an increase of 849 h.p., in comparison with 1965. The following tables show a breakdown of horsepower in use, both in subsurface mining operations and strip mining operations.

SUBSURFACE OPERATIONS

Above Ground		Below Ground	
Duty	H.P.	Duty	H.P.
Haulage	2,276	Haulage	812
Ventilation	648	Ventilation	152
Air Compressing	2,310	Pumping	202
Preparation Plants	4,360	Cutting & Loading	3,661
Miscellaneous	1,678	Miscellaneous	382
Total	11,272	Total	5,209

STRIP MINING OPERATIONS

Duty	H.P.
Preparation Plants	3,629
Compressors	11
Pumping	344
Drilling	25
Electric Shovels and Draglines	7,717
Miscellaneous	798
Total	12,524

The following figures show the number of certain types of electrical equipment used underground during the past ten years.

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Cutting Machines	115	98	73	71	66	56	46	46	36	43
Battery Locomotives	36	31	26	22	25	27	27	22	15	20
Trolley Locomotives	22	21	18	8	10	9	9	7	5	7
Conveyors	46	45	38	30	33	31	30	30	22	25
Coal Drills	86	74	55	56	59	50	53	45	41	49
Continuous Miners	0	0	0	1	1	1	1	1	2	3
Shuttle Cars	0	0	0	0	0	0	0	2	2	3
Face Loaders	12	13	13	15	17	16	16	9	8	9

Twenty-four quarries produced 1,967,639 tons of shale, clay, limestone, building stone, bentonite and oil sands, an increase of 209,876 tons compared with the previous year.

Two hundred and thirty-six inspections were made under the terms of The Coal Mines Regulation Act, 249 in connection with The Workmen's Compensation Board Regulations and 63 under The Quarries Regulation Act.

In addition to the above, 57 inspections were made at 42 abandoned mining locations. Remedial work was required and completed at 20 mines. Sixteen inspections were made for the cancellation of mining leases.

The total number of accidents in coal mines reported was 33. The number of fatal accidents was 1 compared with 6 in the previous year. This equals .288 fatals per million tons of coal produced.

All complaints made to the Division were investigated.

There were no prosecutions under the Coal Mines Regulation Act.

Written examinations under The Coal Mines Regulation Act were held on May 3rd, 4th and 5th at Edmonton and Calgary with successful candidates as follows:—1 manager, 3 third class, 1 first class mine electrician, 2 managers (strip mine), 4 foremen (strip mine), and 1 surveyor (strip mine). One first class certificate (interchange) was granted.

Written examinations under the Quarries Regulation Act were held on May 4th at Edmonton and Calgary with successful candidates as follows:—2 managers and 1 foreman.

One certificate was issued to a successful candidate for blaster's certificate on oral examination.

One examination was held for miners' certificates and 1 certificate was issued to a successful candidate. Six substitute miners' certificates, 2 miners' provisional certificates and 35 miners' permits were granted, making a total of 44 certificates issued which is a decrease of 89 certificates for the year.

On March 23rd a fire destroyed the tippie at Mine No. 1604,

operated by Alberta Coal Sales Ltd., at Taber. The cause of the fire was not definitely established but could have been due to spontaneous combustion coupled with a high wind. A temporary coal handling plant was set up within a few days and this arrangement has continued to the present. No definite plans have been made to rebuild.

On May 5th, a fire was discovered by Mr. P. Melson, Assistant Director of Mines, at Mine No. 1692, operated by M. Vitaly at Coalspur. The fire was found in the mine portal. It is believed to have its origin in a fire which destroyed the snowshed the previous year, the debris of which had been pushed to one side, smouldering until found by Mr. Melson. The fire was eventually extinguished after some initial difficulty as it had penetrated into the coal seam.

On June 12th, at Mine No. 443, operated by Battle River Coal Company Limited, at Sheerness, a fire destroyed a small portable electric switch-house and its contents; four current transformers, one oil breaker and two overload relays.

On July 3rd, south of Blairmore, in the Crowsnest Pass area, two boys were killed and two other boys seriously injured while playing with a box of old detonators which exploded when one boy attempted to open same with a nail. The boys were playing at the town dumping grounds near the old Blairmore South Mine entrance which was sealed off in 1914. Several boxes containing one hundred detonators were later found and destroyed. The detonators are about the size of a .22 rifle shell and were crimped into fuses, a type which has been discontinued in coal mining for a long time. Similar detonators are used in quarrying, road building and railway construction, so it was impossible to find the source of the detonators which were obviously old in appearance.

The char plant operated by Lethbridge Collieries Ltd., Shaughnessy, suspended operations in August.

A shortage of experienced underground miners is being felt throughout the province and has restricted output in some of the smaller mines.

Steel Brothers Canada Ltd., Loders Lime Division, Exshaw, have commenced to build a new lime processing plant near Exshaw.

Reclamation of stripped coal mine areas is receiving increasing attention by all concerned and stricter controls may have to be exercised. We will attempt to have these areas restored to as near the original condition with the minimum of delay.

On June 17th, Mr. J. A. Dutton, Director of Mines for the past thirteen years, retired and Mr. J. D. B. Brown was appointed in his stead. Mr. Dutton has earned the highest respect from all those engaged in mining throughout Canada for his efforts in promoting safety and the goals of efficient mining practices in this province.

Mr. P. Melson was appointed Assistant Director of Mines in June of this year.

In October, Mr. M. Aschacker was appointed District Inspector of Mines for the northern part of Alberta including Edmonton and district.

THE MINES DIVISION

NUMBER OF MINES PRODUCING, OPENED AND ABANDONED
DURING THE YEAR ACCORDING TO AREAS AND KIND OF COAL

Director of Mines - J.D.B. Brown, Agriculture Building,
Edmonton, Alberta. Telephone 229-3802

Assistant Director of Mines - P. Melson, Agriculture
Building, Edmonton, Alberta. Telephone 229-3803

Electrical Inspector of Mines - J.S. Watson, Agriculture
Building, Edmonton, Alberta. Telephone 229-3806

Inspection District	Area	Area Number	Character of Coal	No. of Mines producing during the year	No. of Mines opened during the year	No. of Mines abandoned during the year	Name and Address of District Inspectors of Mines
Calgary	Carbon	6	Sub-bituminous	3	..	1	J.J. Kubin, 806-Centre Street South, Calgary, Alta. Tel. 269-6687
	Cascade	7	Bituminous	1	..	..
	Drumheller	14	Sub-bituminous	5	..	1	
	Gleichen	17	Sub-bituminous	..	..	1
	Sheerness	38	Sub-bituminous	1	..	..
Edmonton	Ardley	1	Sub-bituminous	2	..	2	M. Aschacker, Room 804, Agriculture Building, Edmonton, Alta. Tel. 229-3805
	Camrose	5	Sub-bituminous	2	..	1	
	Castor	8	Sub-bituminous	3	..	..
	Coalspur	11	Bituminous	..	..	1
	Edmonton	15	Sub-bituminous	4	..	..
	Pembina	31	Sub-bituminous	3	..	1	
	Tofield	42	Sub-bituminous	1	..	..
	Westlock	45	Sub-bituminous	2	..	1	
	Wetaskiwin	46	Sub-bituminous	1	..	..
Lethbridge	Brooks	3	Sub-bituminous	1	I.N. Potter, Administration Bldg., 909-3rd Ave. North, Lethbridge, Alta. Tel. 328-4471
	Champion	9	Sub-bituminous	1	..	..
	Crownsnest	12-13	Bituminous	4	1	1	
	Lethbridge	20	Bituminous	1	..	..
	Redcliff	34	Sub-bituminous	1	..	..
	Taber	41	Sub-bituminous	1	..	..
Total				37	1	10	

PARTICULARS WITH REFERENCE TO THE COAL MINING INDUSTRY IN THE
PROVINCE OF ALBERTA DURING THE YEAR ENDING DECEMBER 31, 1966.

SUMMARY OF STATISTICS

Number of tons of coal produced.....	3,467,254
Total valuation of coal produced.....	\$ 12,067,044
Number of tons of briquettes made.....	27,904
Total valuation of briquettes made.....	\$ 254,858
Number of tons of char made.....	11,387
Total valuation of char made.....	\$ 127,946
Number of mines in operation.....	37
Number of mines opened.....	1
Number of mines abandoned.....	10
4 mines or 10.81% of the total operating produced 0.06% of the output....	
8 mines or 21.63% of the total operating produced 0.51% of the output....	
4 mines or 10.81% of the total operating produced 0.80% of the output....	
10 mines or 27.04% of the total operating produced 5.32% of the output....	
5 mines or 13.51% of the total operating produced 10.66% of the output....	
1 mine or 2.70% of the total operating produced 5.74% of the output....	
2 mines or 5.40% of the total operating produced 14.71% of the output....	
3 mines or 8.10% of the total operating produced 62.20% of the output....	
Average number of persons employed.....	1,146
Average number of persons employed in under ground mining.....	842
Average number of persons employed in strip mining.....	304
Average number of days worked.....	240
Total number of manshifts.....	275,195
Number of separate accidents causing loss of life.....	1
Number of fatal accidents below ground.....	1
Number of serious accidents above ground.....	3
Number of serious accidents below ground.....	1
Number of slight accidents above ground.....	9
Number of slight accidents below ground.....	19
Total purchased electric power (kilowatt hours).....	25,690,710
Number of trade name certificates issued.....	1
Number of provisional managers' certificates issued.....	1
Number of provisional second class certificates issued.....	6
Number of provisional electricians certificates issued.....	1
Number of provisional strip mine manager's certificates issued.....	1
Number of provisional strip mine foremen's certificates issued.....	7
Number of provisional miners' certificates issued.....	2
Number of miners' permits issued.....	35
Number of miners' certificates issued.....	1
Number of first class certificates issued.....	2
Number of third class certificates issued.....	3
Number of first class mine electricians certificates issued.....	1
Number of strip mine manager's certificates issued.....	3
Number of strip mine foremen's certificates issued.....	5
Number of strip mine blaster's certificates issued.....	1
Number of strip mine surveyor's certificates issued.....	1
Number of first class certificates issued up to Dec. 31/66.....	315
Number of second class certificates issued up to Dec. 31/66.....	624
Number of third class certificates issued up to Dec. 31/66.....	1,865
Number of mine surveyor's certificates issued up to Dec. 31/66.....	251
Number of first class mine electrician's certificates issued up to Dec. 31/66..	176
Number of second class mine electrician's certificates issued up to Dec. 31/66.	139
Number of strip mine manager's certificates issued up to Dec. 31/66.....	176
Number of strip mine foremen's certificates issued up to Dec. 31/66.....	261
Number of strip mine blaster's certificates issued up to Dec. 31/66.....	27
Number of strip mine surveyor's certificates issued up to Dec. 31/66.....	1
Number of miners' certificates issued up to Dec. 31/66.....	21,074

PARTICULARS WITH REFERENCE TO QUARRIES IN THE
PROVINCE OF ALBERTA DURING THE YEAR ENDING DECEMBER 31, 1966.

SUMMARY OF STATISTICS

Number of tons of limestone produced.....	1,362,902
Number of tons of bentonite produced.....	29,529
Number of tons of shale and clay produced.....	572,734
Number of tons of building stone produced.....	2,224
Number of tons of oil-sands produced.....	250
Number of quarries in operation.....	24
Number of persons employed.....	186
Average number of days worked.....	106
Total number of manshifts.....	36,240
Number of pounds of dynamite used.....	141,725
Number of pounds of ammonia nitrate used.....	351,730
Number of detonators used.....	10,217
Number of shots fired.....	10,814
Number of primers used.....	2,024
Number of missed fire shots.....	5
Amount of prima cord used (feet).....	32,500
Number of provisional manager's certificates issued.....	3
Number of provisional foremen's certificates issued.....	12
Number of manager's certificates issued.....	2
Number of foremen's certificates issued.....	1
Number of blaster's certificates issued.....	1
Number of manager's certificates issued up to December 31st, 1966.....	24
Number of foremen's certificates issued up to December 31st, 1966.....	46
Number of blaster's certificates issued up to December 31st, 1966.....	63

ANNUAL PRODUCTION AND VALUATION OF COAL FROM MINES
IN THE PROVINCE OF ALBERTA
For the Years 1947 to 1966 Inclusive

Year	Output Tons	Valuation Dollars
1947.....	8,074,596	\$ 36,317,343
1948.....	8,111,013	41,875,044
1949.....	8,616,983	44,541,538
1950.....	8,118,206	41,631,579
1951.....	7,661,276	41,000,953
1952.....	7,194,472	39,974,318
1953.....	5,917,423	32,158,435
1954.....	4,859,136	26,349,275
1955.....	4,456,578	23,486,399
1956.....	4,329,639	23,283,966
1957.....	3,155,354	17,287,229
1958.....	2,519,939	12,778,111
1959.....	2,549,517	12,892,747
1960.....	2,404,093	11,439,705
1961.....	2,027,826	10,471,217
1962.....	2,087,310	9,983,327
1963.....	2,289,943	9,866,962
1964.....	2,971,133	11,189,087
1965.....	3,413,928	12,172,001
1966.....	3,467,254	12,067,044

PER CAPITA PRODUCTION OF MINES IN THE PROVINCE
For the Years 1947 to 1966 Inclusive

Year	Gross Tons of coal mined	Total Average No. of men employed	Tons of Coal mined per man employed
1947.....	8,074,596	8,772	920
1948.....	8,111,013	8,865	915
1949.....	8,616,983	8,682	993
1950.....	8,118,206	7,999	1,015
1951.....	7,661,276	7,339	1,044
1952.....	7,194,472	6,936	1,037
1953.....	5,917,423	5,760	1,027
1954.....	4,859,136	4,719	1,030
1955.....	4,456,578	3,801	1,172
1956.....	4,329,639	3,443	1,258
1957.....	3,155,354	2,795	1,129
1958.....	2,519,939	2,021	1,247
1959.....	2,549,517	1,720	1,482
1960.....	2,404,093	1,729	1,390
1961.....	2,027,826	1,323	1,533
1962.....	2,087,310	1,281	1,629
1963.....	2,289,943	1,151	1,989
1964.....	2,971,133	1,188	2,501
1965.....	3,413,928	1,181	2,891
1966.....	3,467,254	1,146	3,026

CLASSIFICATION OF OUTPUT DURING THE YEARS 1947 to 1966 INCLUSIVE
(IN TONS)

Year	Bituminous	Sub-bituminous	Coal used in Coke Production	Tons of Briquettes Made	Tons of Coke Made
1947.....	4,837,376	3,237,220	81,128	282,898	52,627
1948.....	4,920,796	3,190,217	78,795	321,574	45,718
1949.....	5,495,327	3,121,656	91,361	460,643	54,922
1950.....	4,793,020	3,325,186	23,079	409,855	16,837
1951.....	4,659,289	3,001,987	9,957	345,768	3,959
1952.....	4,378,622	2,835,850	3,474	661,862	574
1953.....	5,517,499	2,599,924	...	665,556	...
1954.....	2,402,185	2,456,951	...	635,501	...
1955.....	2,114,892	2,341,686	...	435,785	...
1956.....	2,064,723	2,264,916	...	525,202	...
1957.....	1,265,844	1,889,510	...	265,645	...
1958.....	834,256	1,685,683	...	128,512	...
1959.....	814,819	1,724,698	...	99,499	...
1960.....	863,517	1,560,576	...	44,111	...
1961.....	666,226	1,361,600	2,352	34,534	1,216
1962.....	590,139	1,497,171	661	28,651	491
1963.....	635,650	1,654,293	...	37,358	40
1964.....	866,221	2,104,912	843	38,230	11,677
1965.....	859,176	2,554,752	6,412	34,658	19,971
1966.....	879,569	2,587,685	46,016	27,904	38,804
			28,824		11,387

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ANNUAL REPORT, 1966

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AMOUNT OF COAL SOLD DURING THE YEARS 1947 to 1966 INCLUSIVE FOR CONSUMPTION IN:
(IN TONS)

Year	Railways	Alberta	B.C.	Sask.	Manitoba	Ontario	Quebec	U.S.A.	China and Japan	Total
1947.....	2,504,604	1,671,130	899,403	1,475,006	583,414	162,898	...	91,235	42,192	** 7,433,989
1948.....	2,312,273	1,593,629	945,700	1,443,283	625,009	202,520	58	84,435	200,947	7,377,914
1949.....	3,012,425	1,614,306	891,132	1,232,890	629,556	187,976	...	45,972	3,475	7,617,632
1950.....	2,308,365	1,672,519	873,556	1,366,723	586,920	312,563	...	105,765	...	7,226,413
1951.....	2,443,326	1,427,114	898,633	1,322,162	492,737	182,753	...	80,270	444,317	6,891,212
1952.....	2,065,365	1,231,307	1,021,484	1,241,736	384,924	126,381	...	71,817	1,588	6,147,582
1953.....	1,625,783	1,045,482	859,385	1,034,594	274,758	73,117	...	47,119	...	4,940,238
1954.....	743,743	1,064,817	891,194	995,862	292,455	85,836	...	33,124	...	4,107,051
1955.....	431,639	1,080,379	932,764	893,377	293,719	90,727	...	32,941	...	3,755,546
1956.....	385,388	1,020,538	860,329	871,719	304,918	75,029	...	45,692	...	3,563,735
1957.....	152,693	876,395	672,527	680,297	247,480	68,379	120	46,079	40,745	2,764,760
1958.....	56,420	838,535	535,911	584,025	226,302	54,887	165	37,154	21,952	2,352,308
1959.....	39,122	874,622	437,118	549,663	239,303	52,828	80	33,455	124,719	2,351,110
1960.....	1,045	845,806	379,668	362,383	201,372	40,305	157	30,283	361,326	2,222,355
1961.....	51,128	791,631	321,909	232,848	159,744	35,466	115	18,066	343,720	1,954,627
1962.....	32,003	901,107	283,651	347,032	153,561	29,952	75	9,219	316,787	2,073,367
1963.....	16,001	1,073,606	262,433	343,634	131,471	29,309	118	5,583	410,558	2,272,713
1964.....	14,451	1,620,893	261,990	279,171	122,590	32,261	x	14,805	612,544	2,956,791
1965.....	10,798	1,928,684	276,608	388,796	130,861	31,733	85	14,123	614,801	3,396,489
1966.....	6,631	2,034,814	197,521	376,589	115,771	24,893	*	12,206	709,977	3,478,410

** Includes 4,107 tons to Ships Bunkers

x Includes 46 tons to N.W.T.

* Includes 8 tons to West Germany

THE MINES DIVISION

COAL PRODUCED BY YEARS FROM 1962 to 1966

BITUMINOUS COAL FIELD

Areas	1962	1963	1964	1965	1966
Group 1:					
Cascade.....	217,050	215,269	240,505	243,084	245,469
Group 2:					
Crowsnest.....	300,983	360,268	554,783	609,408	632,974
Group 3:					
Coalspur.....	6,263	5,206	5,896	194	...
Halcourt.....	...	280	...	...	...
Lethbridge.....	65,843	54,627	65,037	6,490	1,126
Total.....	590,139	635,650	866,221	859,176	879,569

SUB-BITUMINOUS COAL FIELD

Group 4:					
Ardley.....	39,817	38,405	34,405	32,034	30,358
Brooks.....	7,652	6,633	6,942	6,783	6,384
Carbon.....	18,009	15,195	14,011	11,731	9,028
Champion.....	4,843	3,710	3,151	3,028	1,507
Drumheller.....	342,240	305,508	246,123	285,175	231,893
Edmonton.....	90,111	85,316	86,478	92,277	80,288
Gleichen.....	2,116	1,470	829	223	...
Pembina.....	196,271	358,275	841,281	968,488	1,133,180
Taber.....	37,977	28,967	27,116	104,398	60,670
Wetaskiwin.....	2,784	2,575	2,341	1,750	1,372
Group 5:					
Camrose.....	24,943	23,019	23,411	26,400	17,808
Castor.....	513,148	569,868	615,072	768,181	774,339
Redcliff.....	2,211	2,023	1,993	2,016	1,856
Sheerness.....	174,167	174,601	164,364	210,746	199,248
Tofield.....	20,062	17,550	15,390	17,370	15,504
Westlock.....	20,820	21,178	22,005	24,152	24,250
Total.....	1,497,171	1,654,293	2,104,912	2,554,752	2,587,685

How the total Tonnage of BITUMINOUS COAL from the Province was disposed of by areas during 1966

Areas	Sold for Consumption in:								Total Disposition	Put to Stock	Put to Waste	Lifted from Stock	Lifted from Waste	Total Tonnage
	Sold to Railway Companies	Alberta	British Columbia	Sask.	Manitoba	Ontario	United States	Japan						
Group 1: Cascade	1481	30290	13434	...	246	17429	10786	189666	263332	34679	...	45995	6547	245469
Group 2: Crownest	...	16924	89581	...	1633	3011	1420	520311	631880	47523	...	46429	...	632974
Group 3: Lethbridge	...	704	72	...	...	...	...	...	776	350	...	...	...	1126
Total:	1481	47918	102087	...	1879	20440	12206	709977	895988	82552	...	92424	6547	879569

THE MINES DIVISION

How the total Tonnage of SUB-BITUMINOUS COAL from the Province was disposed of by areas during 1966

Areas	Sold for Consumption in:								Total Disposition	Put to Stock	Put to Waste	Lifted from Stock	Lifted from Waste	Total Tonnage
	Sold to Railways	Alberta	British Columbia	Sask.	Manitoba	Ontario	Quebec	United States						
Group 4:														
Ardley	...	30085	...	...	...	...	...	...	30085	...	273	...	...	30358
Brooks	...	6099	285	...	...	...	...	...	6384	...	...	...	...	6384
Carbon	...	9028	...	...	...	...	...	...	9028	...	...	...	...	9028
Champion	...	1507	...	...	...	...	...	...	1507	...	...	...	...	1507
Drumheller	1051	10663	41293	66557	17164	3492	...	...	236250	30802	159	35318	...	231893
Edmonton	...	79739	...	...	...	549	...	...	80288	...	...	...	...	80288
Pembina	...	1133172	...	...	...	...	8*	...	1133180	...	...	...	...	1133180
Taber	...	41617	14564	4012	477	...	...	...	60670	...	...	...	...	60670
Wetaskiwin	...	1372	...	...	...	...	...	...	1372	...	...	...	...	1372
Group 5:														
Carose	...	13832	...	...	...	...	...	...	13832	...	3976	...	...	17808
Castor	3272	507924	35099	160263	66976	285	...	...	773819	...	1057	537	...	774339
Redcliff	...	1711	...	...	...	...	...	...	1711	...	145	...	...	1856
Sheerness	827	19069	4193	145757	29275	127	...	...	199248	...	...	...	...	199248
Torfield	...	12795	...	...	...	...	...	...	12795	...	2709	...	...	15504
Westlock	...	22253	...	...	...	...	...	...	22253	...	1997	...	...	24250
Total:	5150	1986896	95434	376589	113892	4453	8*	...	2582422	30802	10316	35855	...	2587685

*8 tons - West Germany

How the total Tonnage of COAL from the Province was disposed of by months during 1966

Months	Sold for Consumption in:										Total Disposition	Put to Stock	Put to Waste	Lifted from Stock	Lifted from Waste	Total Tonnage
	Sold to Companies	Alberta	British Columbia	Sask.	Manitoba	Ontario	Quebec	United States	Japan	Total Disposition						
January	666	250477	28298	49112	21770	6054	...	1196	60822	418395	2508	1839	9555	721	412466	
February	1193	196051	17422	58760	14109	2505	8*	1084	58821	349953	6197	1332	5502	560	351420	
March	805	174200	18160	18192	6226	1390	...	1110	79678	299761	1309	760	12386	610	288834	
April	302	147426	14469	4104	1425	458	...	1094	64745	234023	4124	537	3566	495	234623	
May	310	145416	14109	1572	1215	1053	...	898	64280	228813	11212	30	3626	581	235648	
June	48	113290	14509	1646	671	481	...	1048	53237	184930	22577	12	630	436	206453	
July	45	74328	9499	348	117	63	...	1110	43149	128659	100	5	17012	356	111396	
August	202	123108	12551	3250	1611	1192	...	959	41660	184353	18963	24	1608	499	201233	
September	233	145267	18346	12970	10512	2801	...	1344	78944	270417	997	259	19367	679	251627	
October	1352	199768	19557	42599	20707	3002	...	1004	317007	317007	24654	1327	14874	501	327653	
November	1066	240694	18514	73633	21500	2667	...	927	82901	441902	1658	2321	28674	356	416851	
December	409	224789	16287	110403	15908	3227	...	472	48702	420197	19015	1870	11279	753	429050	
Total:	6631	2034814	197521	376589	115771	24893	8*	12206	709977	3478410	113354	10316	128279	6547	3467254	
% of Total Disposition	.19	58.49	5.68	10.83	3.33	.7235	20.41							

How the total Tonnage of BRIQUETTES from the Province was disposed of during 1966

Briquettes:	4973	16211	2344	36	407	1444	25415	1175	2423	1109	...	27904
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How the total Tonnage of CHAR from the Province was disposed of during 1966

Char:	316	7033	...	7349	436	4124	522	...	11387
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*8 Tons - West Germany

THE MINES DIVISION

How the total Tonnage of BITUMINOUS COAL was disposed of by months during 1966

Months	Sold for Consumption in:									Total Disposition	Put to Stock	Put to Waste	Lifted from Stock	Lifted from Waste	Total Tonnage
	Sold to Railways	Alberta	British Columbia	Sask.	Manitoba	Ontario	Quebec	United States	Japan						
January	146	7509	11603	...	...	5219	...	1196	60822	86495	586	...	8493	721	77867
February	314	6650	8325	...	...	2228	...	1084	58821	77422	5665	...	3500	560	79027
March	86	5850	9887	...	...	1350	...	1110	79678	97963	933	...	9210	610	89076
April	...	3238	8883	...	...	458	...	1094	64745	78418	3794	...	965	495	80752
May	36	2409	9916	...	743	1053	...	858	64280	79295	100	...	3793	581	75021
June	48	2677	10177	...	514	404	...	1048	53237	68105	11512	...	...	436	79181
July	45	990	8507	...	...	613	...	1110	43149	53854	100	...	17012	356	36596
August	132	2172	8686	...	...	1007	...	959	41680	54636	18407	...	99	499	72445
September	43	2883	9660	...	352	1860	...	1344	76944	95886	100	...	18478	679	76031
October	238	5437	5284	...	99	2134	...	1004	33018	47214	22559	...	2192	501	67080
November	197	3711	5511	...	...	1845	...	927	82901	95092	300	...	20993	556	74043
December	194	4392	5648	...	171	2819	...	472	48702	62398	18496	...	7691	753	72450
Total:	1481	47918	102087	...	1879	20440	...	12206	709977	895988	82552	...	92424	6547	879569
% of Total Disposition:	.02	5.35	11.39	...	.02	2.28	...	1.36	79.58						

How the total Tonnage of SUB-BITUMINOUS COAL was disposed of by months during 1966

Months	Sold for Consumption in:									Total Disposition	Put to Stock	Put to Waste	Lifted from Stock	Lifted from Waste	Total Tonnage
	Sold to Railway Companies	Alberta	British Columbia	Sask.	Manitoba	Ontario	Quebec	United States	Japan						
January	520	242968	16695	49112	21770	835	...	...	...	331900	1922	1839	1062	...	334599
February	879	183401	9097	58760	14109	277	8*	...	...	272531	532	1332	2002	...	272393
March	717	168350	8273	18192	6226	40	...	...	...	201798	376	760	3176	...	199758
April	302	144188	5586	4104	1425	...	...	...	...	155605	330	537	2601	...	153871
May	274	143007	4193	1572	472	...	...	...	...	149518	11112	30	33	...	160627
June	...	110613	4332	1646	157	77	...	...	...	116825	11065	12	630	...	127272
July	...	73338	992	348	117	...	...	...	...	74795	...	5	...	...	74800
August	70	120936	3665	3250	1611	185	...	...	...	129717	556	24	1509	...	128788
September	190	142384	8686	12970	10160	941	...	...	...	175331	897	259	891	...	175596
October	1114	194331	10273	42599	20608	868	...	...	...	269793	2135	1327	12682	...	260573
November	869	236983	13003	73633	21500	822	...	...	...	346810	1358	2321	7681	...	342808
December	215	220397	10639	110403	15737	408	...	...	...	357799	519	1870	3588	...	356600
Total:	5150	1986896	95434	376589	113892	4453	8*	...	...	2582422	30802	10316	35855	...	2587685
% of Total Disposition:	.20	76.95	3.69	14.58	4.41	.17	...	...	...			

*8 Tons - West Germany

THE MINES DIVISION

PER CAPITA PRODUCTION OF MINES BY AREAS
BITUMINOUS COAL FIELD

Area	Strip and Underground Mining						Strip Mining						Underground Mining					
	Gross tons of coal mined	Total average No. of men employed	Tons of coal mined per man	Total No. of man-shifts	Tons of coal mined per eight hour man-shift		Gross tons of coal mined	Total average No. of men employed	Tons of coal mined per man	Total No. of man-shifts	Tons of coal mined per eight hour man-shift		Gross tons of coal mined	Total average No. of men employed	Tons of coal mined per man	Total No. of man-shifts	Tons of coal mined per eight hour man-shift	
Group 1:																		
Cascade.....	245,469	226	1,086	56,449	4.35	...	...	...	...	...	...	...	245,469	226	1,086	56,449	4.35	
Group 2:																		
Grovesnest.....	632,974	459	1,379	112,886	5.61	86,858	34	2,555	9,108	9.53	9.53	546,116	425	1,285	103,778	5.26		
Group 3:																		
Lethbridge.....	1,126	2	563	380	2.97	...	...	...	...	...	...	1,126	2	563	380	2.97		
Total.....	879,569	687	1,280	169,715	5.18	86,858	34	2,555	9,108	9.53	9.53	792,711	653	1,214	160,607	4.93		

OUTPUT AND NUMBER OF MINES PRODUCING

Kind of Coal	Under 1,000 Tons		1,000 to 5,000 Tons		5,000 to 10,000 Tons		10,000 to 50,000 Tons		50,000 to 100,000 Tons		100,000 to 150,000 Tons		150,000 to 200,000 Tons		200,000 to 300,000 Tons		Over 300,000 Tons		Total	
	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output
Bituminous.....	..	...	3	6,785	..	...	..	...	1	83,443	..	...	..	...	1	245,469	1	543,872	6	879,569
Sub-bituminous.....	4	1,967	5	11,103	4	27,481	10	184,484	4	286,367	..	...	1	199,248	1	264,459	2	1,612,576	31	2,587,685
Total.....	4	1,967	8	17,888	4	27,481	10	184,484	5	369,810	..	...	1	199,248	2	509,928	3	2,156,448	37	3,467,254

THE MINES DIVISION

AMOUNT OF COAL DISPOSED OF DURING THE YEAR BY AREA, ACCORDING TO SIZE GRADING

[illegible]

DISPOSITION OF ALBERTA COAL

[illegible]

THE MINES DIVISION

PRODUCTION OF COAL PER EIGHT-HOUR MAN-SHIFT
For the Years 1947 to 1966 Inclusive

Year	Gross tons of coal mined	Total No. of Eight- hour Man-shifts	Average No. of tons of coal mined Per Eight-hour shift
1947.....	8,074,596	1,998,002	4.041
1948.....	8,111,013	1,894,837	4.280
1949.....	8,616,983	1,910,922	4.510
1950.....	8,118,206	1,735,316	4.678
1951.....	7,661,276	1,683,061	4.552
1952.....	7,194,472	1,522,264	4.726
1953.....	5,917,423	1,141,531	5.184
1954.....	4,859,136	943,558	5.150
1955.....	4,456,578	783,239	5.690
1956.....	4,329,639	750,318	5.770
1957.....	3,155,354	535,346	5.894
1958.....	2,519,939	386,636	6.517
1959.....	2,549,517	377,870	6.747
1960.....	2,404,093	366,970	6.551
1961.....	2,027,826	285,142	7.112
1962.....	2,087,310	277,198	7.530
1963.....	2,289,943	254,671	8.992
1964.....	2,971,133	285,039	10.423
1965.....	3,413,928	288,871	11.820
1966.....	3,467,254	275,195	12.590

AMOUNT OF MINE TIMBER USED DURING THE YEAR

BITUMINOUS COAL FIELD

Area	Timber lineal feet	Lumber B.M. feet	Lagging lineal feet	Ties lineal feet	Sprags lineal feet
Group 1: Cascade.....	460,547	...	847,811	13,356	...
Group 2: Crowsnest.....	1,006,890	684,155	108,914	3,201	...
Group 3: Lethbridge.....	7,600	...	...	600	...
Total.....	1,475,037	684,155	956,725	17,157	...

SUB-BITUMINOUS COAL FIELD

Group 4: Carbon.....	13,000	...	...	1,310	...
Champion.....	3,011	...	4,660	400	...
Drumheller.....	251,931	...	...	35,113	...
Edmonton.....	152,660	19,000	23,040	8,500	...
Group 5: Redcliff.....	14,024	...	...	...	...
Total.....	434,626	19,000	27,700	45,323	...

PARTICULARS OF LAMPS IN THE BITUMINOUS AND SUB-BITUMINOUS COAL FIELDS DURING THE YEARS 1965 and 1966.

BITUMINOUS COAL FIELD

	<u>1965</u>	<u>1966</u>
Portable Electric Lamps, Edison Cap Type.....	768	505
Wolfe Flame Type.....	73	39
Total.....	841	544

SUB-BITUMINOUS COAL FIELD

Portable Electric Lamps, Edison Cap Type.....	266	276
Wolfe Flame Type.....	23	18
Total.....	289	294

THE MINES DIVISION

QUANTITY OF EXPLOSIVES USED IN POUNDS FOR BLASTING COAL

BITUMINOUS COAL FIELD

Area	Name of Explosives							Total
	Pellet	Monobel	BL-100	CXL-ite	Airdox	Cardox	Forcite	
Group 1: Cascade.....	...	42,600	...	...	...	...	...	42,600
Group 2: Crownsnest...	...	5,780	...	21,796	...	...	19,678	47,254
Group 3: Lethbridge..	...	350	...	...	...	...	...	350
Total.....	...	48,730	...	21,796	...	...	19,678	90,204

SUB-BITUMINOUS COAL FIELD

Group 4:								
Ardley.....	...	1,100	3,950	...	...	...	...	5,050
Brooks.....	...	107	3,307	...	...	...	...	3,414
Carbon.....	...	675	...	...	...	...	150	825
Champion...	...	200	...	...	...	...	...	200
Drumheller..	...	18	...	...	17,500	...	...	17,518
Edmonton...	...	12,769	...	...	...	...	...	12,769
Pembina.....	...	...	3,000	...	...	...	5,000	8,000
Wetaskiwin..	...	...	...	...	...	...	240	240
Group 5:								
Camrose.....	...	...	...	...	...	...	450	450
Castor.....	...	18,280	...	...	...	...	...	18,280
Redcliff....	...	530	...	...	...	...	...	530
Tofield.....	...	...	...	...	...	...	2,800	2,800
Westlock....	...	...	350	...	...	...	...	350
Total.....	...	33,679	10,607	...	17,500	...	8,640	70,426

ESTIMATED NUMBER OF SHOTS FIRED FOR BLASTING COAL

BITUMINOUS COAL FIELD

Area	Electric Detonators	Electric Squibs	Airdox	Total
Group 1:				
Cascade.....	43,490	...	...	43,490
Group 2:				
Crowsnest.....	8,750	...	...	8,750
Group 3:				
Lethbridge.....	750	...	...	750
Total.....	52,990	...	...	52,990

SUB-BITUMINOUS COAL FIELD

Group 4:				
Ardley.....	5,095	...	...	5,095
Brooks.....	2,013	...	...	2,013
Carbon.....	836	...	...	836
Champion.....	75	...	...	75
Drumheller.....	40	...	17,500	17,540
Edmonton.....	13,751	...	...	13,751
Pembina.....	4,390	...	...	4,390
Wetaskiwin.....	482	...	...	482
Group 5:				
Camrose.....	327	...	...	327
Castor.....	14,721	...	...	14,721
Redcliff.....	435	...	...	435
Tofield.....	872	...	...	872
Westlock.....	1,000	...	...	1,000
Total.....	44,037	...	17,500	61,537

THE MINES DIVISION

NUMBER OF TONS OF COAL PRODUCED PER POUND OF
EXPLOSIVES USED

BITUMINOUS COAL FIELD

Area	Number of tons of coal mined	Number of pounds of explosives used	Tons of coal mined per pound of explosives used
Group 1:			
Cascade.....	245,469	42,600	5.76
Group 2:			
Crowsnest.....	632,974	47,254	13.40
Group 3:			
Lethbridge.....	1,126	350	3.22
Total.....	879,569	90,204	9.75

SUB-BITUMINOUS COAL FIELD

Group 4:			
Ardley.....	30,358	5,050	6.00
Brooks.....	6,384	3,414	1.87
Carbon.....	9,028	825	10.94
Champion.....	1,507	200	7.53
Drumheller.....	231,893	17,518	13.24
Edmonton.....	80,288	12,769	6.29
Pembina.....	1,133,180	8,000	141.64
Taber.....	60,670	...	...
Wetaskiwin.....	1,372	240	5.72
Group 5:			
Camrose.....	17,808	450	39.57
Castor.....	774,339	18,280	42.36
Redcliff.....	1,856	530	3.50
Sheerness.....	199,248	...	...
Tofield.....	15,504	2,800	5.54
Westlock.....	24,250	350	69.29
Total.....	2,587,685	70,426	36.74

QUANTITY OF EXPLOSIVES USED IN POUNDS FOR BLASTING ROCK
IN COAL MINES

BITUMINOUS COAL FIELD

Area	Pellet	Monobel	BL-100	CXL-ite	Airdox	Cardox	Forcite	Total
Group 1:								
Cascade.....	7,500	...	...	...	7,500
Group 2:								
Crowsnest....	3,500	3,500
Total.....	7,500	...	...	3,500	11,000

SUB-BITUMINOUS COAL FIELD

Group 4:								
Brooks.....	...	...	...	...	...	...	1,968	1,968
Carbon.....	...	75	...	...	...	...	...	75
Drumheller...	...	56	...	...	...	...	...	56
Taber.....	...	...	...	...	...	...	905	905
Group 5:								
Redcliff.....	...	12	...	...	...	...	...	12
Total.....	...	143	...	...	...	...	2,873	3,016

THE MINES DIVISION

ESTIMATED NUMBER OF SHOTS FIRED FOR BLASTING ROCK
IN COAL MINES
BITUMINOUS COAL FIELD

Area	Electric Detonators	Electric Squibs	Total
Cascade.....	7,660	...	7,660
Crowsnest.....	500	...	500
Total.....	8,160	...	8,160

SUB-BITUMINOUS COAL FIELD

Brooks.....	44	...	44
Carbon.....	100	...	100
Drumheller.....	56	...	56
Taber.....	547	...	547
Redcliff.....	10	...	10
Total.....	757	...	757

ELECTRICITY

Area	Number of Mines using Electricity	Horsepower of Electrical Equipment in Use		Total Horsepower	Purchased Power
		Above Ground	Below Ground		
Ardley.....	1	75	...	75	12,384
Brooks.....	1	35	...	35	55,580
Camrose.....	1	11	...	11	...
Carbon.....	3	44	137	181	13,285
Cascade.....	1	5,517	886	6,403	9,754,000
Castor.....	3	3,566	...	3,566	4,912,611
Champion.....	1	15	...	15	...
Crownest.....	1	3,079	690	3,769	7,310,239
Drumheller.....	5	2,208	2,171	4,379	1,378,454
Edmonton.....	4	447	1,084	1,531	427,660
Lethbridge.....	1	30	150	180	4,000
Pembina.....	2	6,342	...	6,342	...
Redcliff.....	1	95	91	186	21,837
Sheerness.....	1	1,592	...	1,592	949,700
Taber.....	1	588	...	588	784,640
Tofield.....	1	106	...	106	43,450
Westlock.....	2	36	...	36	22,870
Wetaskiwin.....	1	10	...	10	...
Total.....	31	23,796	5,209	29,005	25,690,710

COAL-CUTTING MACHINERY

Area	No. of Machines Operated by :			Tons of Coal Mined by :	
	Electricity	Compressed Air		Electricity	Compressed Air
		Picks	Machines		
Carbon.....	1	...	...	806	...
Cascade.....	2	8	...	120,704	62,382
Champion.....	...	...	2	...	30
Crownest.....	1	181	...	...	332,344
Drumheller.....	6	...	...	174,785	...
Edmonton.....	13	...	...	67,000	...
Lethbridge.....	1	...	...	782	...
Redcliff.....	2	...	...	1,850	...
Total.....	26	189	2	365,927	394,756

THE MINES DIVISION

ACCIDENTS DURING 1966, CLASSIFIED ACCORDING TO THE MINES
IN WHICH THEY OCCURRED

Name of Operator	Area	Above Ground				Below Ground				Total Above and Below Ground
		Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
Bituminous	Cascade..... Crownsnest.... Crownsnest....	..	2	..	2	1	..	6	7	9
		..	1	7	8	..	1	11	12	20
		..	..	1	1	..	..	..	..	1
Sub-Bituminous	Pembina..... Edmonton.....	..	..	1	1	..	..	2	2	1
		..	..	..	..	..	..	..	..	2
	
Total.....		..	3	9	12	1	1	19	21	33

ACCIDENTS AS THEY OCCURRED BY MONTHS DURING THE YEAR 1966

Months	Above Ground				Below Ground				Total Above and Below Ground
	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
January.....	1	4	5	5
February.....	..	1	..	1	..	..	3	3	4
March.....	..	1	..	1	..	..	1	1	2
April.....	1	1	..	..	1	1	2
May.....	3	3	3
June.....
July.....	2	2	..	..	1	1	3
August.....	1	1	..	..	1	1	2
September.....	2	2	1	..	3	4	6
October.....	..	1	1	2	..	..	..	..	2
November.....	1	1	..	..	..	..	1
December.....	1	1	..	..	2	2	3
Total.....	..	3	9	12	1	1	19	21	33

ACCIDENTS OCCURRING IN THE PROVINCE ABOVE AND BELOW GROUND
DURING THE YEAR 1966

Causes	Above Ground				Below Ground				Total Above and Below Ground
Fall of roof or sides.....	4	4	4
Haulage.....	..	1	2	3	1	1	5	7	10
Miscellaneous.....	..	1	6	7	..	..	3	3	10
Packing Timber.....	3	3	3
Slipped and Fell.....	..	1	1	2	..	..	2	2	4
Timbering.....	2	2	2
Total.....	..	3	9	12	1	1	19	21	33

THE MINES DIVISION

ACCIDENTS OCCURRING IN THE PROVINCE ABOVE AND BELOW GROUND FOR THE
YEAR 1966, CLASSIFIED ACCORDING TO THE AREA IN WHICH THEY OCCURRED

BITUMINOUS

Area	Above Ground				Below Ground				Total Above and Below Ground
	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
Cascade.....	..	2	..	2	1	..	6	7	9
Crowsnest.....	..	1	8	9	..	1	11	12	21
Total.....	..	3	8	11	1	1	17	19	30

SUB-BITUMINOUS

Edmonton.....	..	..	..	..	..	..	2	2	2
Pembina.....	..	..	1	1	..	..	..	..	1
Total.....	..	..	1	1	..	..	2	2	3

FATAL ACCIDENTS IN MINES

George W. Kubicek, Motorman, 58, on September 6th, at the mine operated by The Canmore Mines, Limited, Canmore. While attempting to chain the empties down the empty track at Side Track Parting in #1 West Gangway, No. 5 Mine, he caught his head between the stringer and the motor on the loaded track, causing fatal injuries.

NUMBER OF TONS PRODUCED PER ACCIDENT

BITUMINOUS COAL FIELD

Area	Output	No. of Tons Produced Per Accident			
		Fatal	Serious	Slight	Total
Group 1:					
Cascade.....	245,469	245,469	122,735	40,912	27,274
Group 2:					
Crowsnest.....	632,974	...	316,487	33,315	30,141
Group 3:					
Lethbridge.....	1,126	...	...	...	...
Total.....	879,569	879,569	219,892	35,183	29,319

SUB-BITUMINOUS COAL FIELD

Group 4:					
Ardley.....	30,358	...	...	...	...
Brooks.....	6,384	...	...	...	...
Carbon.....	9,028	...	...	...	...
Champion.....	1,507	...	...	...	...
Drumheller.....	231,893	...	...	...	...
Edmonton.....	80,288	...	...	40,144	40,144
Pembina.....	1,133,180	...	...	1,133,180	1,133,180
Taber.....	60,670	...	...	...	...
Wetaskiwin.....	1,372	...	...	...	...
Group 5:					
Camrose.....	17,808	...	...	...	...
Castor.....	774,339	...	...	...	...
Redcliff.....	1,856	...	...	...	...
Sheerness.....	199,248	...	...	...	...
Tofield.....	15,504	...	...	...	...
Westlock.....	24,250	...	...	...	...
Total.....	2,587,685	...	...	862,562	862,562

SUMMARY

Bituminous.....	879,569	879,569	219,892	35,183	29,319
Sub-bituminous.....	2,587,685	...	...	862,562	862,562
Total.....	3,467,254	3,467,254	866,814	123,830	105,068

CLASSIFICATION OF ACCIDENTS ACCORDING TO OUTPUT OF MINES WHICH PRODUCED DURING THE YEAR 1966

Accidents	Under 1,000 tons	1,000 to 5,000 tons	5,000 to 10,000 tons	10,000 to 50,000 tons	50,000 to 100,000 tons	100,000 to 150,000 tons	150,000 to 200,000 tons	200,000 to 300,000 tons	Over 300,000 tons	Total
Fatal.....	1	...	1
Serious.....	2	2	4
Slight.....	3	...	...	6	19	28
Total.....	3	...	...	9	21	33

TONS OF COAL PRODUCED PER ACCIDENT

Fatal.....	...	...	...	...	...	...	...	509,928	...	3,467,254
Serious.....	...	...	...	...	...	...	...	254,964	1,078,224	866,814
Slight.....	...	...	...	...	123,270	...	...	84,988	113,497	123,830
Total.....	...	...	...	...	123,270	...	...	56,659	102,668	105,068

ACCIDENTS

SUMMARY TABLE SHOWING ACCIDENTS OCCURRING IN THE MINES FROM 1947 to 1966
INCLUSIVE, REPORTABLE UNDER THE MINES REGULATION ACT.

Year	Output	Accidents			Tons of Coal Mined Per Accident		
		Fatal	Serious	Slight	Fatal	Serious	Slight
1947.....	8,074,596	15	121	117	538,306	66,732	69,014
1948.....	8,111,013	13	91	93	623,924	89,132	87,215
1949.....	8,616,983	13	89	108	662,076	96,708	79,694
1950.....	8,118,206	20	86	97	405,910	94,398	83,693
1951.....	7,661,276	9	85	53	851,253	90,133	144,552
1952.....	7,194,472	7	79	79	1,027,782	91,069	91,069
1953.....	5,917,423	10	59	60	591,742	100,295	98,623
1954.....	4,859,136	8	51	41	607,392	95,277	118,516
1955.....	4,456,578	3	54	52	1,485,526	82,529	85,703
1956.....	4,329,639	6	34	33	721,607	127,342	131,201
1957.....	3,155,354	2	25	15	1,577,677	126,214	210,357
1958.....	2,519,939	6	19	8	419,990	132,628	314,992
1959.....	2,549,517	1	18	10	2,549,517	141,639	254,952
1960.....	2,404,093	2	16	21	1,202,047	150,256	114,481
1961.....	2,027,826	1	9	11	2,027,826	225,314	184,348
1962.....	2,087,310	4	5	23	521,827	417,462	90,753
1963.....	2,289,943	1	3	11	2,289,943	763,314	208,177
1964.....	2,971,133	1	3	20	2,971,133	990,378	148,557
1965.....	3,413,928	6	3	13	568,988	1,137,976	262,610
1966.....	3,467,254	1	4	28	3,467,254	866,814	123,830

COMPARISON OF PROTECTIVE CLOTHING USED FOR THE YEARS
1964, 1965 and 1966.

Clothing	1964	1965	1966
Hard Hats.....	1,010	977	873
Safety Shoes, pairs...	642	660	533
Goggles, pairs.....	180	177	164
Knee Pads, pairs.....	30	25	6

THE MINES DIVISION

COMPARISON OF ACCIDENTS PER 1,000,000 TONS AND PER 1,000 MEN EMPLOYED, 1947 - 1966

Year	Tonnage	Total No. of men employed	Fatal Accidents			Serious Accidents			Slight Accidents			Total		
			No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed
1947.....	8,074,596	8,772	15	1.86	1.71	121	14.98	13.79	117	14.49	13.33	253	31.33	28.84
1948.....	8,111,013	8,865	13	1.60	1.47	91	11.22	10.27	93	11.47	10.49	197	24.29	22.22
1949.....	8,616,983	8,682	13	1.51	1.50	89	10.33	10.25	108	12.53	12.44	210	24.37	24.19
1950.....	8,118,206	7,999	20	2.46	2.50	86	10.59	10.75	97	11.95	12.13	203	25.01	25.38
1951.....	7,661,276	7,339	9	1.17	1.23	85	11.09	11.58	53	6.92	7.22	147	19.19	20.03
1952.....	7,194,472	6,936	7	0.97	1.01	79	10.98	11.39	79	10.98	11.39	165	22.93	23.79
1953.....	5,917,423	5,760	10	1.69	1.74	59	9.97	10.24	60	10.14	10.42	129	21.80	22.10
1954.....	4,859,136	4,719	8	1.65	1.70	51	10.49	10.81	41	8.43	8.69	100	20.50	21.19
1955.....	4,456,578	3,801	3	0.67	0.79	54	12.12	14.21	52	11.67	13.68	109	24.46	28.68
1956.....	4,329,639	3,443	6	1.39	1.74	34	7.85	9.88	33	7.62	9.58	73	16.86	21.20
1957.....	3,155,354	2,795	2	0.63	0.72	25	7.92	8.94	15	4.75	5.37	42	13.31	15.03
1958.....	2,519,939	2,021	6	2.38	2.97	19	7.54	9.40	8	3.17	3.96	33	13.10	16.33
1959.....	2,549,517	1,720	1	0.39	0.58	18	7.07	10.46	10	3.92	5.82	29	11.37	16.86
1960.....	2,404,093	1,729	2	0.83	1.16	16	6.66	9.25	21	8.74	12.14	39	16.22	22.55
1961.....	2,027,826	1,323	1	0.49	0.76	9	4.44	6.80	11	5.42	8.31	21	10.36	15.87
1962.....	2,087,310	1,281	4	1.92	3.12	5	2.39	3.90	23	11.02	17.95	32	15.33	24.98
1963.....	2,289,943	1,151	1	0.44	0.87	3	1.31	2.61	11	4.80	9.56	15	6.55	13.03
1964.....	2,971,133	1,188	1	0.34	0.84	3	1.01	2.52	20	6.73	16.83	24	8.08	20.20
1965.....	3,413,928	1,181	6	1.76	5.08	3	0.88	2.54	13	3.81	11.01	22	6.44	18.63
1966.....	3,467,254	1,146	1	0.29	0.09	4	1.15	3.49	28	8.07	24.43	33	9.52	28.79

BOARD OF EXAMINERS

The Board of Examiners during the year 1966 consisted of the following:

As representing:

The Mine Inspectorate: J.A. Dutton, Director of Mines.
 Managers: H. Crawford and E.J. Panchysyn.
 Underground Miners: G.B. Hunter.
 Strip Mine Workers: K.D. Wiltse.
 Secretary: M.B. Rasmussen.

Examinations for the following classes of certificates were held in Edmonton and Calgary on May 3rd, 4th and 5th, 1966.

One candidate presented himself for examination for First Class (Underground) Certificate, and he was successful.

Three candidates presented themselves for examination for Third Class (Underground) Certificates, and all were successful.

Two candidates presented themselves for examination for First Class Mine Electricians' Certificates, and one was successful.

Two candidates presented themselves for examination for Surveyors' (Strip Mine) Certificates, and one was successful.

Three candidates presented themselves for examination for Managers' (Strip Mine) Certificates, and two were successful.

Four candidates presented themselves for examination for Foremen's (Strip Mine) Certificates, and all were successful.

The following list gives the names of successful candidates.

UNDERGROUND MINES

FIRST CLASS

Name	Address	Cert. No.	Date of Certificate
Diskin, Jack S.	Coleman	1	17-10-66

THIRD CLASS

Wallinder, Raymond A.	Hillcrest	22	6- 6-66
Rockwood, Orion A.	Edmonton	23	7- 6-66
Lowther, William B.	Canmore	24	13- 6-66

FIRST CLASS MINE ELECTRICIAN

Gillespie, Hector W.	Lethbridge	14	8- 6-66
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STRIP MINES

MANAGER

Bianchini, Meno J.	Hillcrest	17	6- 6-66
Evans, Ronald E.	Forestburg	18	8- 6-66

THE MINES DIVISION

FOREMAN

Giles, David	Langford Park	45	1- 6-66
Wiens, Irvine J.	Wabamun	46	3- 6-66
Bellmond, Philip I.	Seba Beach	47	6- 6-66
Blackmore, Charles H.	Stettler	48	27- 6-66

SURVEYOR

Edwards, C. Dudley	Edmonton	1	6- 6-66
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In addition to the foregoing, the following certificates were issued to candidates successful in the examinations held in June, 1965.

STRIP MINES

FOREMAN

Name	Address	Cert. No.	Date of Certificate
Michel, Peter P.	Wabamun	44	18- 1-66

BLASTER

Fossen, Joy O.	Forestburg	8	14- 2-66
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Also in addition to the foregoing, the following Interchange First Class Certificate (Underground Mine) was issued:

Chamberlin, James Harold Hall	Coleman	2	17-10-66
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The following substitute certificate as First Class Mine Electrician was issued:

Smith, Charles A.	Canmore	15	22- 6-66
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The following certificate as Manager (Strip Mine) was issued, without examination, under Section 74 (2) of The Coal Mines Regulation Act.

Diskin, Jack S.	Coleman	19	24-10-66
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EXAMINATIONS UNDER THE QUARRIES REGULATION ACT

Written examinations for certificates under the above Act were held in Edmonton and Calgary on May 3rd, 1966.

Two candidates presented themselves for examination for Managers' Certificates, and both were successful.

Two candidates presented themselves for examination for Foremen's Certificates, and one was successful.

The following list gives the names of successful candidates.

QUARRIES

MANAGER

Name	Address	Cert. No.	Date of Certificate
Brown, Richard G.F.	Cadomin	25	17- 5-66
Jordon, James M.	Exshaw	26	17- 5-66

FOREMAN

Moore, John A.G.	Edmonton	47	17- 5-66
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The following candidate was successful, by oral examination, for a Quarry Blaster's Certificate.

BLASTER

Fodor, Daniel	Tar Island	65	29- 8-66
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THE MINES DIVISION

REPORT OF ANALYSIS OF COMMERCIAL COAL SAMPLES

Samples taken during 1965 and 1966 and published in accordance with Regulation 17 (5) of the Coal Sales Regulations established pursuant to The Coal Sales Act.

Mine	Size	Moisture	Ash	Volatile Matter	Carbon	Sulphur	BTU/lb
Coleman Collieries Limited (1965)	Export	2.4	8.3	22.7	66.6	0.7	13,830
	Export	1.5	8.7	22.5	67.3	0.6	13,830
	Tent						
	Mountain	2.5	9.6	22.9	65.0	0.7	13,570
Battle River Coal Company, Limited (1965)	Lump	24.7	5.7	29.1	40.5	0.7	8,850
	Egg	27.2	5.6	28.6	38.6	0.8	8,590
	Nut	25.1	7.5	27.1	40.4	0.8	8,560
	Stoker	25.8	7.1	29.2	37.9	0.4	8,590
	Slack	24.9	6.6	30.2	38.3	0.4	8,740
Forestburg Collieries Limited (1965)	Lump	25.1	6.0	38.4	30.5	0.8	8,800
	Stove	25.2	5.5	29.4	39.9	0.7	8,690
	Nut	25.7	5.8	29.3	39.2	0.8	8,810
	Stoker	26.9	6.0	28.3	38.8	0.8	8,520
	Slack	27.1	7.0	27.9	38.0	0.5	8,460
Stettler Coal Company Limited (1965)	Lump	24.3	5.5	31.7	38.5	0.3	8,970
	Nut	25.0	6.7	29.5	38.8	0.4	8,740
	Stoker	25.8	6.9	29.0	38.3	0.4	8,560
	Pea	24.3	5.9	29.4	40.4	0.4	8,980
Battle River Coal Company, Limited, (Roselyn Mine). (1966)	Lump	26.6	6.7	28.8	37.9	0.3	8,280
	Egg	26.5	6.2	29.4	37.9	0.3	8,440
	Nut	25.4	6.0	30.0	38.6	0.4	8,510
	Stoker	25.5	6.1	29.5	38.9	0.4	8,460
	Slack	25.4	6.6	29.9	38.1	0.4	8,410
Alberta Coal Sales Limited (1965)	Lump	14.4	9.7	29.8	46.1	1.0	10,060
	Egg	13.5	9.7	30.7	46.1	1.2	10,260
	Nut	14.3	11.0	29.9	44.8	1.1	9,880
	Stoker	14.4	10.8	29.9	44.9	1.2	9,960
	Slack	15.5	11.1	29.0	44.4	1.1	9,730
North Point Coal Co., Ltd. (1965)	Lump	32.8	3.4	30.6	33.2	0.3	7,870
	Stove	32.6	3.9	32.4	31.1	0.3	7,860
	Nut	32.7	4.4	29.7	33.2	0.3	7,790
	Stoker	33.3	5.9	26.2	34.6	0.3	7,570
	Slack	33.9	4.6	31.0	30.5	0.3	7,680

LIST OF MINES PRODUCING DURING

The Year 1966

Character of Coal:- Bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L. S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
2	Cascade Area The Canmore Mines Limited...	Canmore.....	Parts 24-10-5	Canmore Smokeless Coal, Canmore Briquettes.....	1891
1695 1731 1747 1764	Crownest Area Coleman Collieries Ltd..... Castle Coal Co..... Coleman Collieries Ltd..... Coleman Collieries Ltd.....	Coleman..... Blairmore..... Coleman..... Coleman.....	12- 7- 6-5 8- 9- 6- 2-5 16-19- 9- 4-5 566-10- 4-5	Coleman Coal..... Standard..... Vicary Creek Coal..... Vicary Creek Coal.....	1949 1960 1957 1966
1762	Lethbridge Area C.S.D. Coal Company Ltd.....	Shaughnessy.....	2 & S $\frac{1}{2}$ 7-21-10-21-4	Diamond Coal.....	1965

LIST OF MINES PRODUCING DURING

The Year 1966

Character of Coal:- Sub-bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L. S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
809 1734	Ardley Area Sisson's Mine..... John Lynass.....	Alix..... Delburne.....	S.W. $\frac{1}{2}$ of 2-39-23-4 7-20-38-23-4	Sisson's Coal..... Lynass Coal.....	1919 1953
1404	Brooks Area Kleenbirm Collieries Ltd..... Camrose Area	Bow City.....	Pts. of 15-17-17-4	Birmwel Coal.....	1932
724 1603	Burnstad Coal Ltd..... Camrose Collieries Ltd..... Carbon Area	Round Hill..... Camrose.....	N. $\frac{1}{2}$ of 6-14-48-18-4 14&15-17-46-19-4	Burnstad's Coal..... Camcoal, Camrose Coal.....	1917 1943
53 194 921	Alfred Fox..... New Ghost Pine Coal Co. Ltd.. Erich Reissig..... Castor Area	Carbon..... Three Hills..... Trochu.....	15-11-29-23-4 4&9-31-22-4 15&16-14-33-23-4	Carbon Sunrise Coal..... New Ghost Pine Coal..... Meadow Bank Coal.....	1898 1909 1921
1046 1578 1614	Battle River Coal Co. Ltd..... Forestburg Collieries Ltd..... Stettler Coal Co. Ltd.....	Halkirk..... Forestburg..... Halkirk.....	15&16-20-40-15-4 N.W. $\frac{1}{2}$ of 6-41-15-4 11-25-40-16-4	Cordel Coal, Vesta Coal, Sterling, Victory Coal, Blue Flame Coal..... Diplomat Coal, Ambassador..... All-Fire Coal.....	1922 1941 1943

LIST OF MINES PRODUCING DURING

The Year 1966

Character of Coal: Sub-bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L.S., S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
1509	Champion Area Champion Coal Mine.....	Champion.....	13-34-15-23-4	Champion Coal.....	1937
1573	Drumheller Area Amalgamated Coals Ltd.....	East Coulee.....	1- 7-27-18-4	Meteor Coal, New Star Coal, Western Crown Coal, Western Monarch Coal, New Mercury Coal, New Murray Coal, New Midland Coal, New Rosedale Coal, Hy- Grade, Purity Hard.....	1940 1947
1666 1742	Subway Coal Company..... Century Coals Limited.....	Rosedale..... East Coulee.....	15-16-28-19-4 14- 6-27-18-4	Subway Coal..... Atlas Coal, Commander Coal, New Wild Fire Coal, New Murray Coal, Western Gem, Hy-Grade, Purity Hard.....	1956 1960 1964
1756 1759	Fox Coulee Coals Ltd..... Premier Coal.....	Drumheller..... East Coulee.....	2-17-29-20-4 18-28-19-4 W. $\frac{1}{2}$ 11&E $\frac{1}{2}$ 12	Utility Coal..... Premier Coal.....	1960 1960 1964
720 1582 1626 1727	Edmonton Area Slide Hill Coal Co. Ltd..... Egg Lake Coal Co. Ltd..... Star-Key Mines Limited..... Whitemud Creek Coal Co. Ltd....	Edmonton..... Morinville..... St. Albert..... Edmonton.....	5-51-25-4 36-56-26-4 16, 10&11-35-54-25-4 S.W. $\frac{1}{4}$ of 13-52-25-4	Slide Hill Coal..... Egg Lake Coal..... Star-Key Coal..... Red Hot Coal.....	1960 1941 1945 1952

THE MINES DIVISION

LIST OF MINES PRODUCING DURING

The Year 1966

Character of Coal:- Sub-bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
1670 1739 1757	Pembina Area Warburg Coal Co. Ltd..... Charles Ostertag..... Alberta Coal Limited..... Redcliff Area	Warburg..... Evansburg..... Wabamun.....	S.W. $\frac{1}{4}$ of 10-54- 7-5 Pcs. of 14&15-55- 4-5	Pinter Coal..... Pembina Peerless Coal..... Whitewood.....	1948 1954 1962
772	Ajax Coal Company..... Sheerness Area	Medicine Hat.....	1- 6-13- 6-4	Ajax Coal.....	1918
443	Battle River Coal Company Limited Taber Area	Sheerness.....	S.E. $\frac{1}{4}$ of 13-29-13-4	Roselyn, Berry Creek, Volcano.....	1915
1604	Alberta Coal Sales Limited..... Tofield Area	Taber.....	1&12-10-17-4	Majestic Coal, Southalta Coal.....	1943
215	Jet Construction Ltd..... Westlock Area	Ryley.....	S. $\frac{1}{2}$ of 14-49-18-4	Red Flame Coal.....	1909
1523 1562	Picardville Coal Co. (1960)Ltd.. North Point Coal Co. Ltd..... Wetaskiwin Area	Picardville..... Thorhild.....	16-35-58-27-4 1-11-60-21-4	Picardville Coal..... North Point Coal.....	1960 1959
1743	Blue Bird Coal Co. Ltd.....	Leduc.....	12&13-20-48-25-4	Blue Bird Coal.....	1956

LIST OF QUARRIES PRODUCING DURING
The Year 1966

QUARRY NO.	OPERATOR	QUARRY OFFICE ADDRESS	PRODUCT	QUARRY LOCATION L.S., S., T., R., M.	DATE OF OPENING
Q 38	Brule Area Athabasca Valley Development Corp. Ltd.....	Hinton.....	Limestone.....	5 13-39-27-5	1958
Q 2	Cascade Area Canada Cement Company Limited.....	Exshaw.....	Limestone.....	Pts. of 27&28-24- 9-5	1956
Q 27	Canada Cement Company Limited.....	Exshaw.....	Shale.....	7-25- 8-5	1956
Q 28	Rundie Rock Building Stone Co. Ltd.....	Calgary.....	Bldg. Stone.....	17,18&19-25-10-5	1962
Q 47	Loders, Lime Division.....	Exshaw.....	Limestone.....	24-24-10-5	1960
Q 50	Ribbon Creek.....	Seebe.....	Bldg. Stone.....	15,16& 2-23- 9-5	1960
Q 57	Alberta Rundie Rock Ltd.....	Calgary.....	Bldg. Stone.....	11&14 7-24- 9-5	1962
Q 58	Thunderstone Quarries Ltd.....	Camrose.....	Bldg. Stone.....	N.E. ¼ 12-7-24- 9-5	1961
Q 62	Better Rock Co. Ltd.....	Camrose.....	Bldg. Stone.....	N. ½ 11&12-34-24-10-5	1963
Q 37	Castor Area Magcobar Mining Company, Limited.....	Rosalind.....	Bentonite.....	15&16-31-42-17-4	1958
Q 8	Crowsnest Area Summit Lime Works Ltd.....	Crowsnest, B.C.....	Limestone.....	Pts. of 7- 8- 5-5	1920
Q 5	Edmonton Area Northwest Ceramics Ltd.....	Edmonton.....	Shale.....	N.E. ¼ of 21-53-25-4	1911
Q 22	Inland Cement Company Limited.....	Edmonton.....	Shale.....	Pts. of 15&22-53-25-4	1955
Q 21	Mountain Park Area Inland Cement Company Limited.....	Cadomin.....	Limestone.....	13-30-46-23-5	1955

LIST OF QUARRIES PRODUCING DURING

The Year 1966

QUARRY NO.	OPERATOR	QUARRY OFFICE ADDRESS	PRODUCT	QUARRY LOCATION L.S. S. T. R. M.	DATE OF OPENING
Q 64	Magrath Area Alberta Oyster Shell Co.....	Cardston.....	Limestone.....	5- 3- 4-27-4	1964
Q 34 Q 39 Q 45	Pakowki Area Medicine Hat Brick & Tile Company, Limited. Medicine Hat Brick & Tile Company, Limited. Medicine Hat Brick & Tile Company, Limited.	Medicine Hat..... Medicine Hat..... Medicine Hat.....	Shale..... Shale..... Shale.....	5, 6, 11 & 12-20- 8- 3-4 5-20- 8- 4-4 10 & 15- 9- 8- 4-4	1957 1959 1959
Q 43	Pembina Area Baroid of Canada, Ltd.....	Croway.....	Bentonite.....	Pts. Secs. 5 & 8, Sec. 7-56- 2-5	1959
Q 7 Q 14	Redcliff Area Medicine Hat Brick & Tile Company, Limited. Medicine Hat Brick & Tile Company, Limited.	Redcliff..... Medicine Hat.....	Shale..... Shale.....	S.W. $\frac{1}{4}$ of 1 & 2 31-12- 4-4	1913 1951
Q 24 Q 60	No Area Consolidated Concrete Industries Ltd..... Consolidated Concrete Limited.....	Calgary..... Calgary.....	Shale..... Shale.....	3, 4 & 5-32-21-29-4 7 & 8-36-21- 1-5	1956 1962
Q 36	No Area Northwest Ceramics Ltd.....	Edmonton.....	Shale.....	N.E. $\frac{1}{4}$ of 9	1958
Q 41 Q 65	Synchrude Canada Ltd..... Great Canadian Oil Sands Limited.....	Edmonton..... Edmonton.....	Oil-Sands..... Oil-Sands.....	5 & 6-16-66-22-4 15-24-92-10-4 23-92-10-4	1959 1964

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